

SECTION 114

CONCRETE JOINT SEALER

114.1 REQUIREMENTS

A. Hot Poured Elastic Joint Sealer:

The sealant shall conform to the requirements of ASTM D 3405. Test methods shall conform to ASTM D 3407 except that the fine aggregate used in preparing concrete test blocks shall conform to Section 105 of these Specifications. The manufacturer shall furnish a Certificate of Compliance for the material.

B. Low Modulus Silicone Sealant:

The sealant shall be furnished in a one-part silicone formulation. The sealant must be on the list of approved products maintained by the City and must meet the following requirements:

TEST	LIMIT	TEST METHOD
Tack Free Time	20 - 75 minutes	MIL S 8802
Specific Gravity	1.010-1.515	ASTM D 792, Method A
Durometer Hardness Type A: (Cured 7 days at 77°F ±3° and 45% to 55% R.H.)	10-25 (0°F)	ASTM D 2240
Tensile Stress: (at 150% elongation, 7- day cure at 77°F ±3° & 45% - 55% R.H.)	45 psi maximum	ASTM D 412 (Die C)
Elongation: (7-day cure at 77°F ± 3° & 45% - 55% R.H.)	1000% minimum	ASTM D 412 (Die C)
Shelf Life	6 mo. minimum from date of manufacture	

Ozone & Ultraviolet Resistance	No chalking, cracking or bond loss after 5000 hours	
Movement capability & Adhesion (7-day cure in air 77°F ± 3°)	No adhesive or cohesive failure; all 3 specimens must exceed 500% extension at 0°F	*
Bond to Concrete Mortar Concrete briquette (air cured 7 days at 77°F ±3°)	50 psi minimum (0°F)	AASHTO T 132**

Backer rod shall be a non-moisture-absorbing, resilient material approximately 25% larger in diameter than the width of the joint to be sealed. The rod shall be compatible with the sealant and no bond or reaction shall occur between the rod and the sealant.

* Prepare the specimens using 1 in x 2 in x 3 in concrete blocks in accordance with ASTM D 5329 except that the fine aggregate shall conform to Section 105. A sawed face shall be used for bond surface. Seal two (2) inches of block leaving one-half (1/2) inch on each end of specimen unsealed. The depth of sealant shall be three-eighths (3/8) inch and the width one-half (1/2) inch. Subject the sealant to movement at a rate of two (2) inches per minute until failure.

** Briquettes molded in accordance with AASHTO T 132 sawed in half and bonded with approximately ten (10) mils of sealant and tested using clips meeting AASHTO T 132. Briquettes shall be dried to constant weight in oven 100°C. ±5°. They shall be tested in tension at a loading rate of .3 inch/minute.

114.2 METHOD OF MEASUREMENT & 114.3 BASIS OF PAYMENT

Concrete joint sealer shall be incidental to various concrete construction bid items. There will be no separate measurement and payment for concrete joint sealer.

END OF SECTION